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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/892,662 | 06/28/2001 | Moo Jin Lee | 8733.485.00 | 2042 |

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| EXAMINER |
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TRAN, HENRY N

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| ART UNIT | PAPER NUMBER |
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2674

DATE MAILED: 05/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/892,662

Applicant(s)

LEE, MOO JIN

Examiner

HENRY N. TRAN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 February 2005.
2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-19 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 28 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

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DETAILED ACTION

The amendment filed 2/22/05 has been considered in preparing this Office action.

Applicant's amendments to the specification, the drawings, the abstract and the claims have overcome the objections and rejections recited in the prior Office action. Therefore, the objections and rejections have been withdrawn. However, upon further consideration, a new ground(s) of objections and rejections are made in view of Takeda (U.S. Patent No. 6,456,268) and Baek (U.S. Patent No. 6,525,720).

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because:

(i) reference characters "32", "36" and "40" have all been used to designate "compensation voltage setting"; and reference characters "34", "38" and "42" have all been used to designate "voltage converter" (see Figs. 3, 6 and 9; wherein Figs. 3, 6 and 9 illustrate the same arrangement); and

(ii) the above problem is also found in Figs. 4, 7 and 10. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any

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required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Examiner's suggestion: Delete two out of three Figs. 3, 6 and 9 (or 4, 7 and 10) because of "same arrangement"; submit new sheets of drawings; and correct the Brief Description of the Drawings started in page 5 of the specification, accordingly.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeda (U.S. Patent No. 6,456,268) in view of Baek (U.S. Patent No. 6,525,720).

3. Re claim 1-3 and 7-12, Takeda teaches: a liquid crystal display device including a liquid crystal display panel 35 provided with TFTs 14 comprising: a frequency detection circuit 12 having an input for detecting and receiving external control signals, e.g., Hsync signal h, transmitted from the host; compensation voltage setting means, which include voltage circuits 24 and 28, connected to an output terminal of the frequency detector a generating a compensation voltage control signal, h2, connected to an input terminal of a voltage converter, which includes a gate-on changing circuit 16 and a common changing circuit 20, for generating a compensation voltage, e.g., one of the gate high voltage: Vg1 ~ Vg5, and a common voltage, e.g., Vc1 ~ Vc5, for driving the scanning lines connected to the TFT(s) 14 by adjusting charge times of the TFTs

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and delivering the compensation voltage to the liquid crystal display panel; see Figs. 1 and 5; See col. 1, lines 24-28; col. 2, lines 57-62; col. 3, line 38 to col. 4, line 24.

Although, Takeda does not teach a timing controller arranged for receiving control signals transmitted from the host, wherein, wherein the timing controller further includes an output terminal; and a the frequency detector connected to the input terminal or the output terminal of the timing controller for detecting (the presence of) transmitted control signals.

Baek teaches a liquid crystal display device including a timing controller 34 including a “signal presence determiner 28” arranged for detecting (the presence of) and receiving control signals, e.g., horizontal sync signal, vertical sync signal data enable signal, clock signal, and data (R.G.B) signal, which are transmitted from the host interface 10, for generating various control signals, which are provided to the data driver 18 and the gate driver 20 for driving the liquid crystal display panel; see Figs. 1 and 3; and col. 4, lines 3-23.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the timing controller as taught by Baek in the Takeda display system because this would provide an improved interface system capable of effectively detecting and receiving external input signals for controlling and displaying high-quality images.

By that rationale, claims 1-3 and 7-12 are rejected.

4. Re claims 4-6 and 13-19, which are method claims corresponding to the apparatus claims 1-3 and 7-12, and are rejected on the same basis set forth in claims 1-3 and 7-12 discussed above.

Response to Arguments

5. Applicant's arguments with respect to the amended claims 1-19 have been considered but are moot in view of the new ground(s) of rejection.

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Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. It's U.S. Patents No. 5,748,169 (Okumura et al) that teaches a compensating circuit for driving a liquid crystal display device 11(see Figs. 13-15).

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

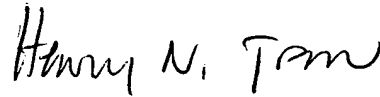
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **HENRY N. TRAN** whose telephone number is 571-272-7760. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **PATRICK N. EDOUARD** can be reached on 571-272-7603. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



HENRY N TRAN
Primary Examiner
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5/20/05